



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product	Spheroplast Buffer
Chemical characterization	Dilute Buffer Solution
Supplier	Edge BioSystems 201 Perry Parkway, Suite 5 Gaithersburg, MD 20877 Tel: 1.301.990.2685 1.800.326.2685 Fax: 1.301.990.0881 www.edgebio.com
Emergency telephone number	1.800.326.2685
Product use	Spheroplast formation
Product Identification Number	N/A

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components	Name	CAS Number	Weight %
	None		
Other components	Name	CAS Number	
	Water	7732-18-5	86 – 88
	Proprietary Enzymes	N/A	< 1%
	Tris-(hydroxymethyl)aminomethane	77-86-1	< 1%
	Ethylenediamine Tetraacetic Acid	60-00-4	< 1%
	Sucrose	57-50-1	9 – 11

See Section 15 of this MSDS for OSHA Regulatory Status

3. HAZARDS IDENTIFICATION

Emergency overview	Clear, colorless liquid with no odor. Contact with liquid may irritate the eye or skin. May be harmful if swallowed. Will not burn. If involved in a fire, use extinguishing media suitable for the material that is burning.
Primary route(s) of entry	Eye and skin contact.
Symptoms of exposure	

Inhalation	None expected.
Eye contact	May cause irritation, experienced as pain, redness, or tearing.
Skin contact	May cause irritation, experienced as redness or swelling.
Ingestion	May cause irritation to gastro-intestinal tract, nausea and/or vomiting, drowsiness, or other adverse health effects.

Medical conditions aggravated by exposure None known.

Listed as carcinogen or potential carcinogen Not listed by OSHA, the International Agency for Research on Cancer (IARC), or the National Toxicology Program (NTP)

4. FIRST AID

Eye contact	Hold eye open and flush slowly and gently with plenty of water for several minutes. Remove any contact lenses, and continue flushing for several more minutes. Seek medical attention if irritation develops and persists. Clean contacts before reuse.
Skin contact	Wash affected areas with plenty of water, and soap if available, for several minutes. Seek medical attention if irritation develops and persists.
Ingestion	Give 3-4 glasses of water, but DO NOT induce vomiting. If vomiting occurs, give fluids again. Get medical attention to determine whether vomiting or evacuation of stomach is necessary. Do not give anything by mouth to an unconscious or convulsing person.
Inhalation	None required under normal use conditions. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.
Note to physician	The toxicological properties of this product have not been determined.

5. FIRE FIGHTING MEASURES

Flash Point and Method	N/A
General hazard	Does not present any special hazards.
Extinguishing media	Use media suitable for the material that is burning.
Extinguishing media to avoid	None
Special firefighting instructions	Move containers from area if it can be done without risk.
Firefighting equipment	As in any fire, wear NIOSH approved, positive-pressure, self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear appropriate protective equipment (See Section 8). Avoid contact with eyes, skin or clothing.
Environmental precautions	Keep large spills out of sewers or waterways.
Clean-up methods	Absorb with Fuller's earth, vermiculite or other similar material. Sweep up and place in a compatible container for disposal.

7. HANDLING AND STORAGE

Handling	Wear appropriate protective equipment (See Section 8). Avoid contact with eyes, skin or clothing. Do not pipette by mouth. Wash thoroughly after handling.
Storage	Store frozen. Keep container tightly sealed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	General dilution ventilation system should be adequate.
Personal Protection	
Respirator	None required under normal use conditions.
Eye Protection	Wear safety glasses or vented safety goggles.
Gloves	Rubber gloves are recommended as a minimum when handling chemicals.
Clothing	Long sleeved laboratory coats or jackets are recommended as a minimum when handling chemicals.
Other	Eye wash.
Hygiene practices	Do not pipette by mouth. Wash hands thoroughly after handling. Discard any contaminated leather or porous materials.
Exposure controls	N/E

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Color	None
Odor	None
Properties	pH: 8.0 Relative density (20°C): 1.0 Solidification point: ~ -2°C Water solubility: Soluble in all proportions.

10. STABILITY AND REACTIVITY

Reactivity	Stable
Materials to avoid	None known.
Conditions to avoid	None known.
Hazardous decomposition products	Carbon dioxide, carbon monoxide

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	No information available.
Chronic Toxicity	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available.
Persistence/degradability	No information available.
Movement/partitioning	No information available. Expected to be mobile in the environment due to high water solubility.

13. DISPOSAL CONSIDERATIONS

RCRA hazardous waste code	Not regulated
Special instructions	Observe all federal, state and local laws and regulations.

14. TRANSPORT INFORMATION

DOT hazard class	Not regulated
TDG hazard class	Not regulated

15. REGULATORY INFORMATION

OSHA regulatory status (29 CFR 1910.1200)	Not hazardous
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CERCLA reportable quantity (40 CFR 117, 302)	Name	Reportable quantity (lbs)	
	None	N/A	

SARA extremely hazardous substances (40 CFR 355)	Name	Threshold planning quantity (lbs)	Reportable quantity (lbs)
	None	N/A	N/A

SARA hazard categories (40 CFR 370)	None
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SARA toxic chemicals (40 CFR 372)	Name	CAS Number	Percentage
	None	N/A	N/A
Inventory Status	The chemicals in this product are either on the TSCA Chemical Substance Inventory and Canadian Domestic Substance List or are subject to the Research and Development exemption.		
Toxic Substance Control Act	May only be used for research and development purposes in small quantities by, or under the direct supervision of, technically qualified persons in compliance with 40 CFR Section 720.36.		
Controlled Products Regulations	This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.		
WHMIS classification	Not a controlled product.		

16. OTHER INFORMATION

Abbreviations	<p>C - Ceiling limit ERG – Emergency Response Guidebook LC₅₀ - The concentration of a substance in air that will kill 50% of test animals within a certain exposure period. LD₅₀ - The dose that causes death in 50% of test animals. N/A - Not applicable N/D - Not determined N/E - Not established N/K - Not known ERG - Emergency Response Guidebook RQ - Reportable Quantity TPQ - Threshold Planning Quantity WHMIS – Workplace Hazardous Materials Information System</p>
Preparation information	
Prepared by	Occupational Health & Safety Department
MSDS number	4050028, 4050130
Date prepared	November 17, 2004
Replaces	New
Disclaimer	The above information is believed correct, but does not purport to be all-inclusive and shall only be used as a guide. Edge BioSystems shall not be held liable for any damage resulting from handling or from contact with the above product.